

LIGNITE RESEARCH COUNCIL MEETING

Financial Summary as of October 31, 2006
2005-2007 Biennium

Program Funding Area	Available Funding Summary		
	as of 7/1/2005	Revised 5/18/2006	as of 10/31/2006
Administration	\$400,000	\$400,000	\$189,566
Non-matching Feasibility Studies	\$1,500,000	\$1,100,000	\$119,000
Small Projects	\$986,618	\$986,618	\$651,618
Demonstration Projects	\$7,234,902	\$7,234,902	\$3,124,959 *
Marketing Projects	\$0	\$400,000	0

* This amount does not include the commitment of \$7,150,000 over the next two biennia for the final phases of the MDU-Westmoreland project nor the \$8.8 million for the CTL Project.

Administration Budget Detail

Financial Summary as of October 31, 2006

Cash Expenditures

Budget Items	Budget Amount	Amount Spent	Balance
Administration	\$400,000	\$210,434	\$189,566
Non-match Feasibility Studies	\$1,315,000	\$80,858	\$1,234,142
Small Research Projects	\$2,801,646	\$1,362,000	\$1,439,646
Marketing Projects	\$400,000	\$0	\$400,000
Demonstration Projects	\$12,229,540	\$2,017,947	\$10,211,593
Total	\$17,146,186	\$3,671,239	\$13,474,947

Administration Budget

Budget Items	Budget Amount	Amount Spent	Balance
NDIC/LRC Expenses	\$75,000	\$35,434	\$39,566
Technical Advisor	\$325,000	\$175,000	\$150,000
Total	\$400,000	\$210,434	\$189,566

Non-matching Feasibility Studies Detail

Financial Summary as of October 31, 2006

Budget Items	Budget Amount	Amount Spent	Balance
Vision 21 Projects (carryover)	\$215,000	\$858	\$214,142
Non-matching Projects	\$1,100,000	\$0	\$1,100,000
Sub Total	\$1,315,000	\$858	\$1,314,142
Less 2005-2007 obligation (F.Gen & carry over)			\$1,195,142
Total	\$1,315,000	\$858	\$119,000

Small Research Projects

Financial Summary as of October 31, 2006

Budget Items	Estimated Amount
Carry Forward of Obligated Funds	\$1,815,028
Carry Forward of Unobligated Funds	\$130,118
Returned Funds & Commitments	\$0
Transfer from Demo Projects/Joint Programs	\$0
Estimated 05-07 Production	\$856,500
Subtotal	\$2,801,646
Less Carry Forward of Obligated Funds	\$1,815,028
Less 2005-2007 Biennium Obligated Funds	\$335,000
Avail. Uncommitted 2005-2007 Funds	\$651,618

Demonstration Projects

Financial Summary as of October 31, 2006

2005-2007 Biennium Debt Service Schedule for Lignite Research Program Series 1995 A Bonds

Quarterly Payment Schedule

<u>Item</u>	<u>11/15/2005</u>					<u>2005-2007 Subtotal</u>
Principal	\$1,910,000	-	\$0	-	\$0	\$1,910,000
Interest	\$54,913		\$0		\$0	\$54,913
LOC Fee	\$19,741		\$0		\$0	\$19,741
Paying Agent Fee	\$340		\$0		\$0	\$340
Administration Trustee Fee	\$1,250		\$0		\$0	\$1,250
Subtotal	\$1,986,244		\$0		\$0	\$1,986,244
Less Interest Earnings	\$909,676		\$0		\$0	\$909,676
Total	\$1,076,568		\$0		\$0	\$1,076,568

2005-2007 Biennium Demonstration Projects Financial Summary

Demonstration Project Summary

<u>Item</u>	<u>Subtotals</u>	The Lignite Research Program Series 1995 A Bonds matured on November 15, 2005
Carryover Unobligated Funding 2003-2005	\$7,924,790	
Estimated 2005-2007 Production (70%)	\$3,348,500	
DGC Payment	\$673,680	
Returned Funds LV21	\$0	
Carryover of Obligated Funds	\$956,250	
Subtotal	\$12,903,220	
Less Program Series A Bond	\$1,076,568	
Committed Funds	\$5,741,693	
LV21 Actual Payments (2005-2007)	\$2,960,000 see Footnote 1	
Subtotal	\$9,778,261	
Available Funding-Demonstration Projects	\$3,124,959	see Footnote 2

AVAILABLE FUND SUMMARY TABLE

2005-2007 BIENNIUM - Summary Date October 31, 2006

<u>Project Funding Area</u>	<u>Amount</u>
Administration	\$189,566
Non-matching Feasibility Studies	\$119,000
Small Projects	\$651,618
Demonstration Projects	\$3,124,959
Total	\$4,085,143

Foot note 1

MDU	\$2,725,000
GNPD Ph2	\$235,000
Total	\$2,960,000

LIGNITE RESEARCH FUND
TARGETED FUNDING AMOUNTS: 2005-2007 BIENNIUM
Summary for the Period as of October 31, 2006

Source of Funds	
Category	Available 05-07 Funds
Estimated Total Funding	
Return of Funds	
Committed Funds	\$335,000
Carry Forward of Obligated	\$0
Carry Forward of Unobligated	\$130,118
Funds from 05-07 Production	\$856,500
Estimated 2005-2007 Available Funding	\$651,618

Research Program Activities (Small Projects)				
Lignite Research Funds				
Summary of Available Funds by Priority Area				
Priority Areas	Est. Available 05-07 Biennium Beginning (\$)	Obligated Funding (\$)	Available Funding (\$)	Funding Requests (\$)
Environ. Issues		\$235,000		\$0
Mining & Reclam.				\$0
Combustion/Gasification		\$100,000		\$141,000
Byproducts				\$0
Beneficiation				\$0
Marketing	\$0	\$2,400,000	0	\$0
Total	\$986,618	\$2,735,000	-\$1,748,382	\$141,000

LRC Request					
Grant Round LIX (59) Requests	Administration	Small Projects	Demonstration Projects	Total LRC Request	Total Project
Review of Regulations/Coal Combustion		\$12,000		\$12,000	\$36,000
Upgrad & Refurbishment Slaggin Gasifier		\$129,000		\$129,000	\$354,000
Totals	\$0	\$141,000	\$0	\$141,000	\$390,000

Demonstration Projects	
Lignite Research Funds	
Summary of Available Funds	
Available Funds	Amount
	\$3,651,279
Remaining/Unrequested Funds	\$3,651,279

Joint Program	
Lignite Research Funds	
Summary of Available Funds	
	Amount
	\$0
	\$0
Remaining/Unobligated Funds	\$0

Small Projects - Obligated Funding
OBLIGATED FUNDING AMOUNTS: 2005-2007 BIENNIUM
Funding Status - October 31, 2006

General Priority Area	Contract Number	Descriptive Title	Contractor	Contract Date	LRF Grant Award
Environmental Issues					
	FY06-LIV(54)-142	Importance of Se-Hg Interaction	EERC	12/9/2005	\$55,000
	FY06-LV(55)-143	PCOR	EERC	12/7/2005	\$180,000
Total					\$235,000
Mining & Reclamation					
Total					\$0
Combustion Technologies					
	FY06-LVI(55)-144	Gasification of Lignite to Produce Fuels	EERC	1/4/2006	\$100,000
Total					\$100,000
Byproducts					
Total					\$0
Beneficiation					
Total					\$0
Marketing					
	FY06-LVI-147	Implementation of Regional Marketing Plan	LEC		\$2,400,000
Total					\$2,400,000
Total All Areas					\$2,735,000

LIGNITE RESEARCH FUND
Active Projects During 2005-2007 Biennium
Current Summary All Projects - October 31, 2006

	<u>Small Projects</u>	<u>All Projects</u>	<u>LV21 Projects</u>	<u>Non-LV21</u>	<u>Feasibility Studies</u>
Total LRC Funding	\$7,429,903	\$34,715,846	\$23,997,943	\$1,325,000	\$1,963,000
Total Project Funding	\$55,285,509	\$371,067,566	\$221,013,762	\$92,805,295	
Total Number of Projects	24	40	5	5	3
Funding Ratio Total Project\$ to LRF\$	7.4	10.7	1.0	70.0	

CURRENT SMALL RESEARCH PROJECTS FINANCIAL SUMMARY

Contract Number	Descriptive Title	Priority Area	Contractor	Contract Date	LRF Award	LRF Paid	LRF Balance	Total Project	Active Proj
Research Program Activities									
FY01-XXXVIII-105	Hg Oxidation Catalyst at Coal Creek	Environmental	GRE	3/12/2001	\$92,000	\$87,000	\$5,000	\$1,268,600	1
FY02-XLIV-110	Biomass Impacts on SCR	Environmental	EERC	3/14/2002	\$120,000	\$120,000	\$0	\$400,000	1
FY02-XLV (46)-113	Anaerobic Treatment of DGL Stripped Gas Liq	Environmental	EERC	4/30/2002	\$130,000	\$130,000	\$0	\$380,000	1
FY02-XLVI-115	Implementation of Regional Lig Non-matching	Non-matching	LEC	6/19/2002	\$1,800,000	\$1,700,000	\$100,000	\$3,600,000	1
FY03-XLVIII(48)-117	Hg & Air Toxic Impacts on CCB Disposal&Util	Environmental	EERC	5/30/2003	\$37,500	\$35,500	\$2,000	\$1,600,000	1
FY03-XLIX(49)-118	Hg Control At SaskPower-Field Test	Environmental	EERC	6/24/2003	\$200,000	\$175,000	\$25,000	\$1,100,000	1
FY03-XLIX(49)-122	Thermal Pre-Combustion Hg Removal for LRC	Environmental	MDU	8/7/2003	\$139,403	\$139,403	\$0	\$956,962	1
FY04-L(50)-124	Enhancing Carbon Sorbent Reactivity in Hg C	Environmental	EERC	2/3/2004	\$600,000	\$555,000	\$45,000	\$5,732,195	1
FY04-L(50)-125	Lg-Scale Hg Crt'l Field Tests - Oxid Sys Wet F	Environmental	EERC	2/3/2004	\$172,500	\$158,125	\$14,375	\$2,152,767	1
FY04-L(50)-126	Evaluate of MerCap for Hg Crt'l-Stanton Plant	Environmental	GRE	2/3/2004	\$150,000	\$120,000	\$30,000	\$843,858	1
FY04-L(50)-127	Alternative Cover Demo Project at CCS	Environmental	GRE	2/3/2004	\$250,000	\$212,500	\$37,500	\$500,000	1
FY04-L(50)-128	Plains CO2 Reduction Partnership (PCORP)	Environmental	EERC	2/3/2004	\$240,000	\$240,000	\$0	\$2,748,139	1
FY05-LI(51)-129	Lignite Coal Test - TRIG @ Wilsonville	Combustion	BEPC	7/1/2004	\$125,000	\$15,000	\$110,000	\$250,000	1
FY05-LI(51)-130	Health Implications of Hg-Se Interactions	Environmental	EERC	7/1/2004	\$50,000	\$40,000	\$10,000	\$153,846	1
FY05-LI(51)-131	Investigation of Hg-Carbon Sorbent Reactions	Environmental	EERC	7/1/2004	\$54,000	\$47,000	\$7,000	\$240,870	1
FY05-LII(52)-134	Canadian Clean Power Coalition	Combustion	BEPC	2/11/2005	\$75,000	\$65,000	\$10,000	\$150,000	1
FY05-LII(52)-135	Hg Behavior in CFBC	Environmental	EERC	2/11/2005	\$200,000	\$150,000	\$50,000	\$1,000,000	1
FY05-LII(52)-136	CATM	Environmental	EERC	2/11/2005	\$45,000	\$30,000	\$15,000	\$3,090,000	1
FY05-LII(52)-137	Hg-Barrier Filter Oxidation	Environmental	UND ChE	3/23/2005	\$15,000	\$7,000	\$8,000	\$245,000	1
FY05-LIII(53)-139	Hg-Carbon Interactions	Environmental	EERC	6/10/2005	\$19,500	\$14,500	\$5,000	\$60,000	1
FY05-LIV(54)-142	Importance of Hg-Se Interactions	Environmental	EERC	12/9/2005	\$55,000	\$0	\$55,000	\$385,000	1
FY06-LV(55)-143	Plains CO2 Reduction Partnership Phase II	Environmental	EERC	12/7/2005	\$360,000	\$120,000	\$240,000	\$21,487,892	1
FY06-LV(55)-144	Gasification of Lignite F-T	Environmental	EERC	1/4/2006	\$100,000	\$40,000	\$60,000	\$2,140,380	1
FY06-LVI(56)-147	Imp. Of Reg. Lignite Marketing Plan	Marketing	LEC		\$2,400,000	\$0	\$2,400,000	\$4,800,000	1
Total Current Small Projects					\$7,429,903	\$4,201,028	\$3,228,875	\$55,285,509	24

Current Lignite Non-matching Feasibility Study Projects

Total LRF Funding		\$1,963,000			
Total Number of Projects		3			
	Title	Contractor	Project Amount	Amount Paid	LRF Balance
LMFS-02-37	Lignite Vision 21 Project - Phase IV	LEC	\$982,000	\$767,000	\$215,000
LMFS-06-38	Future Gen	EERC	\$130,000	\$80,000	\$50,000
LMFS-06-39	Lignite Vision 2.1 Project - Phase V	LEC	\$851,000	\$0	\$851,000
Total Current LMFS Projects			\$1,963,000	\$847,000	\$1,116,000

Current Demonstration Projects

Total LRF Funding		\$25,322,943								
Total Project Costs		\$313,819,057								
Total Number of Projects		10								
Funding Ratio Total Project\$ to LRF\$		12.4								
Contract Number	Descriptive Title	Contractor	Contract Date	LRF Grant	LRF Investment	LRF Total	LRF Paid	LRF Balance	Total Project	
FY01-XL-107	Lignite Vision 21 Project Gascoyne, North Dak	MDU	9/14/2001	\$10,000,000	\$0	\$10,000,000	\$1,125,000	\$8,875,000	\$10,000,000	
FY03-XLIX(49)-123	LV21 Project Phase II South Heart	GNPD	2/10/2005	\$687,500	\$0	\$687,500	\$687,500	\$0	\$1,375,000	
FY05-LI(51)-132	Lignite Enhancement-Dry Process Cleaning	Falkirk	7/1/2004	\$250,000	\$0	\$250,000	\$225,000	\$25,000	\$1,331,035	
FY05-LI(51)-133	Ethanol Plant Production	RTE	5/12/2006	\$350,000	\$0	\$350,000	\$275,000	\$75,000	\$78,570,000	
FY05-LIII(53)-138	Field Demo Sorbent Injection-Hg Control	ALSTOM	10/1/2005	\$200,000	\$0	\$200,000	\$175,000	\$25,000	\$1,584,260	
FY05-LIII(53)-140	Activated Char Production from Lignite	EERC	6/10/2005	\$250,000	\$0	\$250,000	\$200,000	\$50,000	\$770,000	
FY05-LIV(54)-141	Lignite Test at a CFBC	BEPC	12/5/2005	\$275,000	\$0	\$275,000	\$110,000	\$165,000	\$550,000	
FY06-LV(55)-146	LV21 Project Phase III South Heart	GNPD	6/1/2006	\$1,310,443	\$0	\$1,310,443	\$0	\$1,310,443	\$2,620,866	
FY06-LVII(57)-148	LV21 Coal-to-Liquids	GRE/Fal/Head/NoAC	9/29/2006	\$10,000,000	\$0	\$10,000,000	\$0	\$10,000,000	\$50,000,000	
FY06-LVIII(58)-149	Spirit Energy Power Plant	GRE/Fal/Head/NoAC		\$2,000,000	\$0	\$2,000,000	\$0	\$2,000,000	\$157,017,896	
Total Current Demonstration Projects						\$0	\$25,322,943	\$2,797,500	\$22,525,443	\$313,819,057

Current Joint Programs

Total LRF Funding		\$0							
Total Project Costs		\$0							
Total Number of Projects		0							
Funding Ratio Total Project\$ to LRF\$		0.0							
Contract Number	Descriptive Title	Priority Area	Contractor	Grant Date	LRF Amount	LRF Paid	LRF Balance	Total Project	Count
Total Current Joint Programs					\$0	\$0	\$0	\$0	0

LIGNITE RESEARCH FUND
SMALL RESEARCH PROJECTS FINANCIAL SUMMARY
July 1, 1987 - March 31, 2006

Total LRF Funding \$15,673,911
Total Project Funding \$97,208,173
Total Number of Projects 120
Funding Ratio LRF to Total Project 6.2

Contract Number	Descriptive Title	Priority Area	Contractor	Contract Date	LRF Award	LRF Paid	LRF Balance	Total Project
Research Program Activities								
LRC-I-2	SynOps '88	Marketing	BDA	8/2/1988	\$10,000	\$10,000	\$0	\$72,750
LRC-I-3	Project CFB	Combustion	EERC	4/9/1989	\$25,000	\$25,000	\$0	\$110,000
LRC-I-4	Coal Drying	Beneficiation	Carbontec	9/12/1988	\$25,000	\$25,000	\$0	\$50,000
LRC-I-5	European Markets	Marketing	UND/EMF	9/20/1988	\$5,000	\$5,000	\$0	\$12,777
LRC-I-6	National Energy Consensus	Marketing	AEAC	8/12/1988	\$10,000	\$10,000	\$0	\$250,000
LRC-I-7	Soil Depth/Rangelands	Reclamation	NDSU/AES	8/2/1988	\$20,730	\$20,730	\$0	\$65,175
LRC-I-8	Underground Coal Gasification	Combustion	EERC	1/13/1988	\$30,000	\$30,000	\$0	\$393,501
LRC-II-9	Project CFB	Combustion	EERC	4/9/1989	\$25,000	\$25,000	\$0	\$110,000
LRC-II-11	Project Sodium	Combustion	EERC	4/9/1989	\$25,000	\$25,000	\$0	\$240,000
LRC-II-12	European Markets	Marketing	UND/EMF	3/6/1989	\$17,500	\$17,500	\$0	\$44,723
LRC-II-13	Economic Analysis	Marketing	NDSU/AES	3/6/1989	\$2,500	\$2,500	\$0	\$5,000
LRC-III-14	Soil Depth/Rangelands	Reclamation	NDSU/AES	6/22/1989	\$14,730	\$14,730	\$0	\$54,175
LRC-III-15	Hot Water Drying	Beneficiation	BNI/MN PWR	6/22/1989	\$70,000	\$70,000	\$0	\$670,000
LRC-III-16	Coal Drying	Beneficiation	Carbontec	6/22/1989	\$10,000	\$10,000	\$0	\$20,000
LRC-III-17	Underground Coal Gasification	Combustion	EERC	8/21/1989	\$34,861	\$34,861	\$0	\$393,362
LRC-IV-18	Hot Water Drying	Beneficiation	BNI	1/26/1989	\$70,000	\$70,000	\$0	\$281,000
LRC-IV-19	Fractionation System	Byproducts	DGC	1/26/1990	\$75,000	\$75,000	\$0	\$1,468,000
LRC-IV-20	Economic Analysis	Marketing	NDSU/AES	1/26/1990	\$4,000	\$4,000	\$0	\$8,572
LRC-V-21	Cresols & Xylenols	Byproducts	DGC	7/6/1990	\$28,000	\$28,000	\$0	\$90,000
LRC-V-22	Soil Depth Requirement	Reclamation	NDSU/AES	7/6/1990	\$14,430	\$14,430	\$0	\$47,505
LRC-VI-25	Project CFB	Combustion	EERC	12/19/1990	\$50,000	\$50,000	\$0	\$1,000,000
LRC-VI-26	Economic Analysis	Marketing	NDSU/AES	12/19/1990	\$4,500	\$4,500	\$0	\$9,422
LRC-VI-27	Marketing of North Dakota Lignite	Marketing	Lignite Coalition	12/19/1990	\$14,297	\$14,297	\$0	\$29,297
LRC-VII-28	Soil Depth/Rangelands	Reclamation	NDSU/AES	6/26/1991	\$16,160	\$16,160	\$0	\$45,571
LRC-VII-29	Mitre/Hybrid Coal	Beneficiation	DGC	6/26/1991	\$60,000	\$60,000	\$0	\$120,000
LRC-VIII-30	Economic Analysis	Marketing	NDSU/AES	12/19/1991	\$5,060	\$5,060	\$0	\$10,282
LRC-VIII-31	Soil Productivity	Reclamation	NDSU/AES	12/4/1991	\$49,483	\$49,483	\$0	\$110,241
LRC-VIII-32	Advanced Processing of Lignite	Beneficiation	MN PWR	12/12/1991	\$25,000	\$25,000	\$0	\$55,000
LRC-VIII-33	SynOps '92	Marketing	LEC	12/18/1991	\$17,500	\$17,500	\$0	\$133,806
LRC-IX-34	Agglomeration and Deposition	Combustion	EERC	8/19/1992	\$200,000	\$200,000	\$0	\$1,200,000
LRC-IX-35	K-Fuel Processing	Beneficiation	BNI/MN PWR	7/8/1992	\$14,750	\$14,750	\$0	\$29,500
LRC-IX-36	Reburning for NOx Control	Combustion	Cyclone Users	7/18/1992	\$205,115	\$205,115	\$0	\$410,230
LRC-X-37	Evaluating Reclaimed Grassland	Reclamation	NDSU/ARS	9/21/1992	\$13,500	\$13,500	\$0	\$51,000
LRC-X-38	Externality Study	Marketing	OTP	9/17/1992	\$15,000	\$15,000	\$0	\$30,000
LRC-X-40	Reclaimed Grassland (climatic)	Reclamation	NDSU/A&RS	12/4/1992	\$5,000	\$5,000	\$0	\$20,000
LRC-XII-43	Multiple-Use Marketing	Byproducts	EERC	12/15/1992	\$10,000	\$10,000	\$0	\$40,000
LRC-XII-44	Soil Productivity	Reclamation	NDSU/LRRC	12/4/1992	\$21,698	\$21,698	\$0	\$88,000
LRC-XIII-46	Additive for Emissions Control	Environmental	NACCO	7/20/1993	\$27,000	\$27,000	\$0	\$54,729
FY94-XIV-47	Air Toxics Emissions Study	Environmental	Batelle	11/11/1993	\$55,000	\$55,000	\$0	\$1,000,919
FY94-XIV-48	Naphthols	Byproducts	DGC	9/14/1993	\$200,000	\$200,000	\$0	\$465,000
FY94-XV-49	Soil Productivity	Reclamation	NDSU/LRRC	1/5/1994	\$21,698	\$21,698	\$0	\$88,000
FY94-XV-50	Soil Depth Requirement	Reclamation	NDSU/LRRC	1/14/1994	\$33,960	\$33,960	\$0	\$67,920
FY94-XV-51	Mitigation of Air Toxics	Environmental	EERC	1/15/1994	\$99,924	\$99,924	\$0	\$380,000
FY94-XV-52	Reburning NOx Engineering Study	Combustion	Cyclone Users	12/30/1993	\$170,985	\$170,985	\$0	\$341,970
FY94-XV-53	Physically Cleaned Lignite	Beneficiation	EERC	1/12/1994	\$14,958	\$14,958	\$0	\$29,958
FY94-XVI-54	ND Lignite Flyash Utilization	Byproducts	EERC	7/6/1994	\$80,000	\$80,000	\$0	\$230,000
FY94-XVI-55	Externalities	Environmental	LEC	7/13/1994	\$250,000	\$250,000	\$0	\$550,000
FY94-XVII-56	IFGT for Air Toxics Control	Environmental	B&W	10/20/1994	\$54,534	\$54,534	\$0	\$109,068
Subtotal Small Projects 2 thru 56					\$2,251,873	\$2,251,873	\$0	\$11,086,453

LIGNITE RESEARCH FUND
SMALL RESEARCH PROJECTS FINANCIAL SUMMARY - Continued
(Continued)

Contract Number	Descriptive Title	Priority Area	Contractor	Contract Date	LRF Award	LRF Paid	LRF Balance	Total Project
Research Program Activities								
FY95-XVIII-57	Physically Cleaned Lignite	Beneficiation	GFAT	1/5/1995	\$85,000	\$85,000	\$0	\$170,000
FY95-XVIII-58	Prime & Nonprime Farmlands	Reclamation	NDSU/LRRC	2/27/1995	\$21,116	\$21,116	\$0	\$42,332
FY95-XIX-59	EEE Evaluation of Lignite Cleaning	Beneficiation	GFAT	6/13/1995	\$51,149	\$51,149	\$0	\$102,649
FY95-XIX-60	Coal Quality Management System	Combustion	MTI	7/5/1995	\$250,000	\$250,000	\$0	\$810,565
FY95-XIX-61	Resource Eval. & Ash Deposition	Combustion	EERC	6/12/1995	\$113,984	\$113,984	\$0	\$379,984
FY95-XX-62	Center for Air Toxics Metals	Environmental	EERC	12/4/1995	\$80,000	\$80,000	\$0	\$3,580,000
FY95-XX-63	Soil & Gypsum use of Flyash	Byproducts	EERC	9/21/1995	\$40,000	\$40,000	\$0	\$120,000
FY96-XXI-64	Metal Adsorbents from Lignite	Beneficiation	GFAT	11/13/1995	\$27,000	\$27,000	\$0	\$54,000
FY96-XXI-65	Resins from DGC's Catechols	Byproducts	DGC	11/15/1995	\$75,000	\$75,000	\$0	\$185,614
FY96-XXIII-66	Asphalt Materials from DGC's Tar Oil	Byproducts	DGC	3/21/1996	\$60,000	\$60,000	\$0	\$150,250
FY96-XXIII-67	Low-NOx Cyclone Barrel	Combustion	Cyclone Users	4/4/1996	\$88,938	\$88,938	\$0	\$177,870
FY97-XXIV-68	Reducing Management Variable	Reclamation	NDSU/LRRC	7/24/1996	\$16,118	\$16,118	\$0	\$32,236
FY97-XXIV-69	Bottom Ash Utilization	Byproducts	Tri-Star, Inc	8/22/1996	\$10,000	\$10,000	\$0	\$20,000
FY96-XXIV-70	Coal Combustion Workshop	Byproducts	EERC	10/2/1996	\$10,000	\$10,000	\$0	\$32,250
FY97-XXV-71	Coal Sampling System	Combustion	BNI/MTI	12/3/1996	\$49,720	\$49,720	\$0	\$104,271
FY97-XXV-72	Regional Lignite Energy Marketing Pla	Marketing	LEC	5/6/1997	\$825,000	\$825,000	\$0	\$1,650,000
FY97-XXVI-73	Lignite FBC Ash Flowable Fill	Byproducts	MDU/WRI	12/31/1996	\$37,319	\$37,319	\$0	\$152,632
FY97-XXVII-74	Grassland Management for Diversity	Reclamation	NDSU	5/30/1997	\$46,410	\$46,410	\$0	\$156,060
FY97-XXVII-75	Concrete Admixtures from DGC's Cate	Byproducts	DGC	3/24/1997	\$28,000	\$28,000	\$0	\$144,000
FY97-XXVII-76	Optimizing Performance of the Heskett	Combustion	MDU/EERC	5/21/1997	\$55,000	\$55,000	\$0	\$183,000
FY98-XXVIII-77	Gypsum from FGD	Byproducts	En-Rock	9/30/1997	\$23,500	\$23,500	\$0	\$47,000
FY-98-XXX-79	Mercury Formation and Fate	Environmental	EERC	4/29/1998	\$120,000	\$120,000	\$0	\$400,000
FY98-XXX-83	Matching Coal Quality & Boiler Operati	Env/Recla	MTI	4/13/1998	\$260,050	\$260,050	\$0	\$1,227,415
FY99-XXXI-85	Fluid-bed/Asphalt Paving	Combustion	EERC	9/29/1998	\$0	\$0	\$0	\$0
FY99-XXXI-86	Bottom Ash in Road Construction	Byproducts	En-Rock	8/10/1998	\$32,000	\$32,000	\$0	\$69,516
FY99-XXXI-87	Bench-Scale Hg Flyash Interactions	Environmental	EERC	10/16/1998	\$40,000	\$40,000	\$0	\$2,425,641
FY99-XXXI-88	Fish Consumption Survey	Environmental	EERC	11/24/1998	\$39,000	\$39,000	\$0	\$130,000
FY99-XXXII-89	Center for Air Toxics Metals	Environmental	EERC	6/22/1999	\$75,000	\$75,000	\$0	\$3,892,400
FY99-XXXIII-90	MDU Controlled Density Fill	Byproducts	MDU	3/17/1999	\$97,115	\$97,115	\$0	\$358,375
FY99-XXXIII-91	Paste Technology	Byproducts	En-Rock	5/13/1999	\$100,000	\$100,000	\$0	\$400,000
FY99-XXXIII-93	Hg Speciation - Stanton Station	Environmental	EERC	9/23/1999	\$44,000	\$44,000	\$0	\$135,998
FY00-XXXIV-94	Lignite Testing in Hi-Temp Trans. Rea	Combustion	EERC	7/30/1999	\$249,970	\$249,970	\$0	\$709,970
FY00-XXXIV-95	Pow. Act. C from ND Lignite	Byproducts	EERC	9/8/1999	\$30,000	\$30,000	\$0	\$160,000
FY00-XXXIV-96	Lignite Flyash in Feedlot Surfaces	Byproducts	EERC	7/30/1999	\$116,160	\$116,160	\$0	\$531,360
FY00-XXXIV-97	Lignite in Haulroad Construction	Byproducts	Falkirk	9/9/1999	\$59,426	\$59,426	\$0	\$118,852
FY00-XXXIV-98	Imp. Regional Lignite Marketing Plan	Marketing	LEC	9/10/1999	\$975,000	\$975,000	\$0	\$1,950,000
FY00-XXXV-99	ND Children's Health Study	Environmental	LEC	5/24/2000	\$83,333	\$83,333	\$0	\$250,000
FY00-XXXVI-100	Evaluation of SCR Catalyst Blinding	Environmental	EERC	3/17/2000	\$199,951	\$199,951	\$0	\$733,333
FY00-XXXVI-101	Incremental Moisture Reduction	Beneficiation	GRE	5/9/2000	\$161,000	\$161,000	\$0	\$322,666
FY01-XXXVII-102	Reclaimed Grassland Part 2	Reclamation	NDSU	10/17/2000	\$32,250	\$32,250	\$0	\$111,720
FY01-XXXVII-103	Hg Options at Coal Creek	Environmental	GRE	10/17/2000	\$95,000	\$95,000	\$0	\$190,000
FY01-XXXVII-104	LV 21 Phase II Transmission	Marketing	LEC	10/17/2000	\$140,000	\$140,000	\$0	\$300,000
FY01-XXXVIII-105	Hg Oxidation Catalyst Study at Coal C	Environmental	GRE	1/2/2001	\$92,000	\$87,000	\$5,000	\$1,268,600
FY02-XLII-108	Low- Temperature NOx Reduction	Environmental	EERC	3/14/2002	\$200,000	\$200,000	\$0	\$1,020,000
FY02-XLIV-110	Biomass Impacts on SCR	Environmental	EERC	3/14/2002	\$120,000	\$120,000	\$0	\$400,000
FY02-XLIV-111	Center for Air Toxics Metals-Affiliates F	Environmental	EERC	5/9/2002	\$75,000	\$75,000	\$0	\$3,750,000
FY02-XLIV-112	Hg Control Options Phase II at Stantor	Environmental	GRE	3/18/2002	\$80,000	\$80,000	\$0	\$220,000
FY02-XLV -113	Anaerobic Treatment of DGL Stripped	Environmental	EERC	4/30/2002	\$130,000	\$130,000	\$0	\$380,000
FY02-XLV-114	Mercury Control Tech for Utilities Burin	Environmental	EERC	4/30/2002	\$150,000	\$150,000	\$0	\$833,000
FY02-XLVI(46)-115	Implementation of Regional Lig.Market	Marketing	LEC	9/19/2002	\$1,800,000	\$1,700,000	\$100,000	\$3,600,000
FY03-XLVII(47)-116	Long-Term Monitoring At N.D. Power F	Environmental	EERC	9/18/2002	\$129,000	\$129,000	\$0	\$430,000
FY03-XLVIII(48)-117	Hg&Air Toxic Impacts on CCB Dispos	Environmental	EERC	5/30/2003	\$37,500	\$18,750	\$18,750	\$1,600,000
FY03-XLIX(49)-118	Hg Control At SaskPower-Field Test	Environmental	EERC	6/24/2003	\$200,000	\$175,000	\$25,000	\$1,100,000
FY03-XLIX(49)-119	Impact of SCR Catalyst on Hg Oxid in	Environmental	EERC	6/24/2003	\$30,000	\$30,000	\$0	\$100,000
FY03-XLIX(49)-120	Pilot-&Full-Scale Demo of Adv Tech fo	Environmental	EERC	6/24/2003	\$150,000	\$150,000	\$0	\$1,300,000
FY03-XLIX(49)-121	Lignite Fuel Enhancement: Incrementa	Environmental	GRE	9/11/2003	\$235,626	\$235,626	\$0	\$471,252
FY03-XLIX(49)-122	Thermal Pre-Combustion Hg Removal	Environmental	MDU	8/7/2003	\$139,403	\$139,403	\$0	\$956,962
FY03-L(50)-124	Enhancing Carbon Sorbent Reactivity i	Environmental	EERC	2/3/2004	\$600,000	\$515,000	\$85,000	\$5,732,195
FY03-L(50)-125	Lg-Scale Hg Ctrl Field Tests - Oxid Sy	Environmental	EERC	2/3/2004	\$172,500	\$158,125	\$14,375	\$2,152,767
FY03-L(50)-126	Evaluate of MerCap for Hg Ctrl-Stanto	Environmental	GRE	2/3/2004	\$150,000	\$120,000	\$30,000	\$843,858
FY03-L(50)-127	Alternative Cover Demo Project at CC	Environmental	GRE	2/3/2004	\$250,000	\$212,500	\$37,500	\$500,000
FY03-L(50)-128	Plains CO2 Reduction Partnership (PC	Environmental	EERC	2/3/2004	\$240,000	\$240,000	\$0	\$2,748,139
FY05-LI(51)-129	Lignite Coal Test - TRIG @ Wilsonville	Combustion	BEPC	7/1/2004	\$125,000	\$15,000	\$110,000	\$250,000
F%05-LI(51)-130	Health Implications of Hg-Se Interactio	Environmental	EERC	7/1/2004	\$50,000	\$40,000	\$10,000	\$153,846
FY05-LI(51)-131	Investigation of Hg-Carbon Sorbent Re	Environmental	EERC	7/1/2004	\$54,000	\$47,000	\$7,000	\$240,870
FY05-LII(52)-134	Canadian Clean Power Coalition	Combustion	BEPC	2/11/2005	\$75,000	\$65,000	\$10,000	\$150,000
FY05-LII(52)-135	Hg Behavior in CFBC	Environmental	EERC	2/11/2005	\$200,000	\$150,000	\$50,000	\$1,000,000
FY05-LII(52)-136	CATM	Environmental	EERC	2/11/2005	\$45,000	\$30,000	\$15,000	\$3,090,000
FY05-LII(52)-137	Hg-Barrier Filter Oxidation	Environmental	UND ChE	3/23/2005	\$15,000	\$7,000	\$8,000	\$245,000
FY05-LIII-(53)-139	Hg-Carbon Interactions	Environmental	EERC	6/10/2005	\$19,500	\$14,500	\$5,000	\$60,000
FY05-LIV-(54)-142	Importance of Hg-Se Interactions	Environmental	EERC	12/9/2005	\$55,000	\$0	\$55,000	\$385,000
FY06-LV-(55)-143	Plains CO2 Reduction Partnership Ph	Environmental	EERC	12/7/2005	\$360,000	\$120,000	\$240,000	\$21,487,892
FY06-LV-(55)-144	Gasification of Lignite F-T	Environmental	EERC	1/4/2006	\$100,000	\$40,000	\$60,000	\$2,140,380
FY06-LVI-(56)-147	Imp. Reg. Lignite Marketing Plan	Marketing	LEC		\$2,400,000	\$0	\$2,400,000	\$4,800,000
Subtotal Projects 57 thru 144					\$13,422,038	\$10,136,413	\$3,285,625	\$86,121,720

Total Projects 2 through 147

\$15,673,911 \$12,388,286 \$3,285,625 \$97,208,173

Abbreviation	Name	L/E Coal	Lignite/Electric Coalition	Cyc. Users	Cyclone Users Group
B&W	Babcock & Wilcox	DAE	Department of Agriculture Economics	A&RS	Animal & Range Sciences Department
NDSU	North Dakota State University	LRRC	Land Reclamation Research Center	OTP	Otter Tail Power
EERC	Energy & Environmental Research Center	MN PWR	Minnesota Power	GRAT	Grand Forks Activation Technologies
	Irsum2005-2007 051006rev2.XLS Small Projects	MTI	Microbeam Technologies Inc.	LRF	Lignite Research Fund

Non-Matching Feasibility Studies Summary

LMFS Projects Summary

July 1, 1987 - October 31, 2006

Total Funding = \$5,528,949

Grant Awards = 35

	Proposal #	Title	Project Amount	Contractor
LMFS-1	RFP-91-1	Lignite Marketing Feasibility Study	\$180,605	J.E. Sinor Consultants, Inc.
LMFS-3	RFP-92-1	Lignite Upgrading Feasibility Study	\$100,000	Bechtel Corporation
LMFS-4	RFP-92-2	Lignite Transportation Study	\$51,459	Corporate Strategies, Inc.
LMFS-5	RFP-92-3	Upgraded Lignite Market Assessment Study	\$35,000	Bechtel Corporation
LMFS-6	RFP-92-6	Lignite Energy Conversion Technology Study	\$90,000	Bechtel Corporation
LMFS-7	RFP-92-4	Lignite Generation Transportation Study	\$32,000	ABB Power T&D Company
LMFS-8	RFP-92-7	Lignite Niche Market Study	\$89,900	Charles River Associates
LMFS-9	RFP-92-5	Business Incentives for Lignite Generation	\$17,328	J.E. Sinor Consultants, Inc.
LMFS-10	RFP-94-2	Development of Lignite Niche Market Opportunities	\$45,000	J.E. Sinor Consultants, Inc.
LMFS-11	RFP-94-3	Byproduct Marketing Study - Catechols & Naphthols	\$40,000	SRI International
LMFS-12	RFP-94-1	Upgraded Lignite Performance Testing	\$74,951	Babcock & Wilcox
LMFS-13	RFP-94-5	Activated Carbonaceous Adsorbents	\$32,725	Coal Corp. of Victoria
LMFS-14	RFP-94-6	Activated Carbon Production & Testing	\$39,700	Energy & Environmental Research Corp.
LMFS-15	RFP-94-7	Upgraded North Dakota Lignite	\$30,000	EERC
LMFS-16	RFP-94-9	MN Interim Externality Values	\$75,000	Lignite Energy Council
LMFS-17	proj. canceled	SynCoal Combustion Testing	\$0	Center SynCoal Partnership
LMFS-18	RFP-94-11	Commercial Uses for Catechol Derivatives	\$12,000	Dakota Gasification Company
LMFS-19	proj. canceled	SynCoal Combustion Testing	\$0	Center SynCoal Partnership
LMFS-20	RFP-96-1	Marketing RFP Development	\$5,110	Simmons
LMFS-21	RFP-96-1	Regional Marketing Plan	\$190,000	Simmons/Himle Horner
LMFS-22	RFP-96-2	Mercury Emissions	\$44,940	ENSR
LMFS-23	RFP--96-3	Mercury Health Effects	\$90,231	Roth
LMFS-24	RFP-96-4	Mercury Brochure	\$10,000	Simmons
LMFS-25	RFP-97-1	Intermediates and Derivatives from Phenol	\$30,000	Chemical Market Resources
LMFS 98-26		Kyoto Impact on Agriculture in ND, SD, MN	\$27,200	NDSU/ U of MN
LMFS-98-27	proj. canceled	Hg Fish Consumption Study	\$0	UND School of Medicine
LMFS 98-28		Marketing Feasibility Study Update	\$50,000	Sinor Consultants
LMFS 99-29		Evaluation of Rammed-Earth Abode	\$35,800	EERC
LMFS-99-30		Alt. Lignite Extraction Technologies	\$30,000	Dakota Gasification Company
LMFS-99-31		Lignite Vision 21 Project - Phase I	\$132,000	LEC
LMFS-99-32		Env. Enhancements Vision 21 Project	\$50,000	RDI
LMFS-99-33		Vision 21 Transmission Study	\$75,000	ABB Power T&D Company
LMFS-00-34		LV 21 Phase II	\$500,000	LEC
LMFS-02-35		LV 21 Phase III	\$1,300,000	LEC
LMFS-04-36	RFP-04-1	Lignite-Fired Ethanol Plant Feasibility Study	\$50,000	BBI International
LMFS-04-37	LV21 Ph IV	LV21 Phase IV	\$982,000	LEC
LMFS-06-38		Future Gen	\$130,000	EERC
LFS-07-39		LV21 Phase V	\$851,000	LEC

Total All Projects

\$5,528,949

**DEMONSTRATION PROJECTS FUNDING
Funding Summary - As of October 31, 2006**

	<u>All Projects</u>	<u>LV 21 Projects</u>	<u>Non-LV 21 Projects</u>
Total LRF Funding	\$35,402,262	\$24,882,602	\$10,519,660
Total Project Funding	\$428,390,225	\$222,541,371	\$205,848,854
Total Number of Projects	19	19	0
Funding Ratio LRF to Total Project	12.1	8.9	19.6

Non-LV 21 Projects

<u>Contract Number</u>	<u>Descriptive Title</u>	<u>Contractor</u>	<u>Contract Date</u>	<u>LRF Grant</u>	<u>LRF Investment</u>	<u>LRF Total</u>	<u>LRF Paid</u>	<u>LRF Balance</u>	<u>Total Project</u>	<u>Count</u>
LRC-XI-41	Proposal Preparation MRY Unit 3	BNI Coal, Ltd.	12/9/1992	\$150,000	\$0	\$150,000	\$150,000	\$0	\$970,000	1
LRC-XII-42	Proposal Preparation Liquid Fuels	DGC	12/11/1992	\$150,000	\$0	\$150,000	\$150,000	\$0	\$355,000	1
LRC-D-96-2	Anhydrous Ammonia Production	DGC	11/1/1996	\$8,100,000	\$0	\$8,100,000	\$8,100,000	\$0	\$112,928,729	1
LRC-D-96-3	Anhydrous Ammonia Production	DGC	12/4/1996	\$0	\$4,200,000	\$4,200,000	\$4,200,000	\$0	\$0	0
FY98-XXIX-80	Forced Oxidation for Gypsum Production	GRE	6/11/1999	\$54,150	\$0	\$54,150	\$54,150	\$0	\$216,600	1
FY98-XXIX-82	Riverdale Haulroad	Falkirk	4/1/1998	\$298,000	\$0	\$298,000	\$298,000	\$0	\$1,189,230	1
FY98-XXX-84	Lignite Testing in HiTemp Adv. Furn	EERC	8/11/1998	\$262,510	\$0	\$262,510	\$262,510	\$0	\$7,000,000	1
FY99-XXXIII-92	Variable Speed Fans - LOS	LOS-Basin	5/13/1999	\$180,000	\$0	\$180,000	\$180,000	\$0	\$384,000	1
FY05-LI(51)-132	Lignite Enhancement-Dry Process Cleaning	Falkirk	7/1/2004	\$250,000	\$0	\$250,000	\$225,000	\$25,000	\$1,331,035	1
FY05-LI(51)-133	Ethanol Production -CFBC Process	Red Trail Energy	5/12/2006	\$350,000	\$0	\$350,000	\$0	\$350,000	\$78,570,000	1
FY05-LIII-(53)-138	Field Demo Sorbent Injection-Hg Control	ALSTOM	10/1/2005	\$200,000	\$0	\$200,000	100,000	\$100,000	\$1,584,260	1
FY05-LIII-(53)-140	Activated Char Production from ND Lignite	EERC	6/10/2005	\$250,000	\$0	\$250,000	140,000	\$110,000	770,000	1
FY05-LIV-(54)-141	Lignite Test at a CFBC	BEPC	12/5/2005	\$275,000	\$0	\$275,000	\$0	\$275,000	\$550,000	1
SubTotal				\$10,519,660	\$4,200,000	\$14,719,660	\$13,859,660	\$860,000	\$205,848,854	12

LV 21 Projects

<u>Contract Number</u>	<u>Descriptive Title</u>	<u>Contractor</u>	<u>Contract Date</u>	<u>LRF Grant</u>	<u>LRF Investment</u>	<u>LRF Total</u>	<u>LRF Paid</u>	<u>LRF Balance</u>	<u>Total Project</u>	<u>Count</u>
FY01-XL-106	GRE Lignite Vision 21 Project	Great River Energy	7/13/2001	\$211,409	\$0	\$211,409	\$211,409	\$0	\$211,409	1
FY01-XLI-107	MDU Gascoyne Project	Montana-Dakota Utilities	9/17/2001	\$10,000,000	\$0	\$10,000,000	\$1,125,000	\$8,875,000	\$10,000,000	1
FY01-XLIII-109	Great Northern Properties LV 21 Ph I	GNPD	11/1/2001	\$673,250	\$0	\$673,250	\$673,250	\$0	\$1,345,600	1
FY01-XLIII-123	Great Northern Properties LV 21 Ph II	GNPD	2/10/2005	\$687,500	\$0	\$687,500	\$687,500	\$0	\$1,345,600	1
FY06-LV-(55)-146	LV21 Project Phase III South Heart	GNPD	6/12/2006	\$1,310,443	\$0	\$1,310,443	\$0	\$1,310,443	\$2,620,866	1
FY06-LVII-(57)-148	LV21 Coal-to-Liquids	GRE, Falkirk, Headwaters,NoAC	9/29/2006	\$10,000,000	\$0	\$10,000,000	\$0	\$10,000,000	\$50,000,000	1
FY06-LIII-(58)-149	Spirit Energy Power Plant	GRE		\$2,000,000	\$0	\$2,000,000	\$0	\$2,000,000	\$157,017,896	1
SubTotal				\$24,882,602	\$0	\$24,882,602	\$2,697,159	\$22,185,443	\$222,541,371	7
Total				\$35,402,262	\$0	\$39,602,262	\$16,556,819	\$23,045,443	\$428,390,225	19